

REPORT ON OIL ENGINE MACHINERY.

No. 39
31 OCT 1929

Received at London Office

Date of writing Report 25th OCT 1929 When handed in at Local Office 19 Port of LENINGRAD

No. in Survey held at LENINGRAD Date, First Survey 15th Nov 1927 Last Survey 21st Oct 1929
Reg. Book. Number of Visits 97

34553 on the Single Fun Triple Quadruple Screw vessel "SMOLNY" Tons Gross 3767
Net 2164

Built at LENINGRAD By whom built SEVERNEY SHIPBUILDING YARD Yard No. 306 When built 1929
Engines made at LENINGRAD By whom made RUSSIAN DIESEL WORKS Engine No. 306 When made 1929
Boilers made at LENINGRAD By whom made SEVERNEY SHIPBUILDING YARD Boiler No. 306 When made 1929
Indicated Horse Power 2200 Owners SOVTORGFLOT Port belonging to LENINGRAD
Nominal Horse Power as per Rule 692 Is Refrigerating Machinery fitted for cargo purposes YES Is Electric Light fitted YES
Trade for which vessel is intended LENINGRAD - LONDON.

ENGINES, &c.—Type of Engines RUSSIAN DIESEL NOBEL TYPE 2 or 4 stroke cycle 2 Single or double acting SINGLE
Maximum pressure in cylinders 35 kg/cm² Diameter of cylinders 650 mm Length of stroke 860 mm No. of cylinders SIX No. of cranks SIX
Distance between bearings, adjacent to the Crank, measured from inner edge to inner edge 920 mm Is there a bearing between each crank YES
Revolutions per minute 115 Flywheel dia. 2300 mm Weight 8630 KILOS Means of ignition COMPRESSION Kind of fuel used ABOVE 150° F
Crank Shaft, dia. of journals as per Rule 393 mm Crank pin dia. 400 mm Crank Webs Mid. length breadth 600 mm Thickness parallel to axis shrunk
as fitted 400 mm Mid. length thickness 220 mm Thickness around eye-hole shrunk
Flywheel Shaft, diameter as per Rule 393 mm Intermediate Shafts, diameter as per Rule 285 mm Thrust Shaft, diameter at collars as per Rule 300 mm
as fitted 400 mm as fitted 320 mm as fitted 340 mm
Crank Shaft, diameter as per Rule 341 mm Screw Shaft, diameter as per Rule 350 mm Is the shaft fitted with a continuous liner NO 2 LINERS
as fitted 350 mm Is the screw shaft fitted with a continuous liner NO 2 LINERS

Propeller Liners, thickness in way of bushes as per Rule 18.2 mm Thickness between bushes as per rule 20 mm Is the after end of the liner made watertight in the propeller boss YES
If the liner is in more than one length are the junctions made by fusion through the whole thickness of the liner TWO LINERS
If the liner does not fit tightly at the part between the bearings in the stern tube, is the space charged with a plastic material insoluble in water and non-corrosive YES
If two liners are fitted, is the shaft lapped or protected between the liners YES Is an approved Oil Gland or other appliance fitted at the after end of the tube shaft NONE
Length of Bearing in Stern Bush next to and supporting propeller 1400 mm

Propeller, dia. 3950 mm Pitch 3800/4200 mm No. of blades 4 Material BRONZE whether Moveable YES Total Developed Surface 6.31 sq. METRES
Method of reversing Engines COM. AIR Is a governor or other arrangement fitted to prevent racing of the engine when declutched YES Means of lubrication GRAVITY
Thickness of cylinder liners 60 mm MAX. Are the cylinders fitted with safety valves YES Are the exhaust pipes and silencers water cooled or lagged with insulating material YES
If the exhaust is led overboard near the waterline, what means are arranged to prevent water from being syphoned back to the engine YES
Cooling Water Pumps, No. 4 TWO MAIN & BILGE & BALLAST PUMPS Is the sea suction provided with an efficient strainer which can be cleared within the vessel YES
Large Pumps worked from the Main Engines, No. ONE Diameter 110 mm Stroke 200 mm Can one be overhauled while the other is at work YES
Pumps connected to the Main Bilge Line No. and Size TWO 70 TON EACH, (INDEPENDENT) 200 x 350 mm STROKE DUPLEX.
How driven ELECTRIC MOTORS
Ballast Pumps, No. and size BOTH BILGE PUMPS CONNECTED TO BALLAST LINE Lubricating Oil Pumps, including Spare Pump, No. and size YES
Two independent means arranged for circulating water through the Oil Cooler YES Suctions, connected to both Main Bilge Pumps and Auxiliary Bilge Pumps, No. and size:—In Machinery Spaces TWO @ 6" DIA. (DIRECT) 2 @ 3" DIA. TUNNEL WELL 3" DIA.

Independent Power Pump Direct Suctions to the Engine Room Bilges, No. and size TWO P x S 6" DIRECT.
Are all the Bilge Suction pipes in Holds and Tunnel Well fitted with strum-boxes YES Are the Bilge Suctions in the Machinery Spaces from easily accessible mud-boxes, placed AT the level of the working floor, with straight tail pipes to the bilges YES
Are all Sea Connections fitted direct on the skin of the ship WHICH CONNECTS WITH SEA THROUGH Are they fitted with Valves or Cocks BOTH
Are they fixed sufficiently high on the ship's side to be seen without lifting the platform plates KINGSTON VALVE DOUBLE BOTTOM TANK Are the Overboard Discharges above or below the deep water line ABOVE
Are they each fitted with a Discharge Valve always accessible on the plating of the vessel YES Are the Blow Off Cocks fitted with a spigot and brass covering plate YES
Are all pipes pass through the bunkers NONE How are they protected YES
Are all pipes pass through the deep tanks NONE Have they been tested as per Rule YES
Are all Pipes, Cocks, Valves, and Pumps in connection with the machinery and all boiler mountings accessible at all times YES
Is the arrangement of valves and their connections such as to prevent the possibility of water passing from the sea or from water tanks into the cargo or machinery spaces, or from one compartment to another YES Is the Shaft Tunnel watertight YES Is it fitted with a watertight door YES worked from MAIN DECK

In wood vessel, what means are provided to prevent leakage of either fuel oil or of lubricating oil from saturating the woodwork YES
Main Air Compressors, No. TWO UNITS L.P. & H.P. No. of stages THREE Diameters 280 mm H.P. 280 mm L.P. Stroke 580 mm Driven by ROCKING LEVERS
Auxiliary Air Compressors, No. TWO UNITS L.P. & H.P. No. of stages THREE Diameters 280 mm H.P. 125 mm L.P. Stroke 270 mm Driven by ELECTRIC MOTOR
All Auxiliary Air Compressors, No. ONE No. of stages TWO Diameters 280 mm H.P. 80 mm L.P. Stroke 170 mm Driven by ELECTRIC MOTOR
Serving Air Pumps, No. TWO DOUBLE ACTING Diameter 1050/300 x 1050 mm Stroke 700 mm Driven by ROCKING LEVERS
Auxiliary Engines crank shafts, diameter as per Rule APPROVED LONDON LETTERS 11/12/26 & 23/3/26
as fitted 165 mm

RECEIVERS:—Is each receiver, which can be isolated, fitted with a safety valve as per Rule YES
Are the internal surfaces of the receivers be examined YES What means are provided for cleaning their inner surfaces REMOVABLE ENDS & USE OF STEAM
Is there a drain arrangement fitted at the lowest part of each receiver YES
High Pressure Air Receivers, No. TWO "AVX." Cubic capacity of each 250 LITRES Internal diameter 400 mm thickness 18 mm
Seamless, lap welded or riveted longitudinal joint SEAMLESS Material S.M. STEEL Range of tensile strength 52/56 kg/cm² Working pressure by Rules 105 kg/cm²
Starting Air Receivers, No. TEN Total cubic capacity 4000 LITRES Internal diameter 400 mm thickness 18 mm
Seamless, lap welded or riveted longitudinal joint SEAMLESS Material S.M. STEEL Range of tensile strength 52/56 kg/cm² Working pressure by Rules 105 kg/cm²

IS A DONKEY BOILER FITTED? YES YARROW TYPE & ALSO WASTE HEAT BOILER If so, is a report now forwarded? YES

PLANS. Are approved plans forwarded herewith for Shafting 14/4/26 Receiver 26/7/27 & 31/10/28 Separate Tanks 2/3/28
 Donkey Boilers YARROW BOILER 9/4/29 (If not, state date of approval) WASTE HEAT BOILER 20/2/28 General Pumping Arrangements 31/7/28 Oil Fuel BURNING Arrangements 2/11/28

SPARE GEAR/MAIN MOTOR :- 1 Cylinder cover complete with all valves, casings, springs etc, 1 complete set of extra cylinder cover valves, 3 Fuel valve spindles, 1 Piston complete with rings, 1 set of skew wheels for cam shaft drive (4), sets of coupling bolts for Crank & Intermediate shafts, set of fuel pump parts plungers, valves & springs, 1 set of main compressor piston rings & 1/2 set of valves, a number of lengths of different diameter high pressure piping, 1 set of studs and nuts for cylinder cover, a quantity of assorted bolts & nuts.

AUX. MACHINERY :- 1 Set of Piston rings and half set of valves for each compressor. 60 KW Dynamo engines connecting rods and main bearing bolts, 1 set of piston rings and working parts for fuel pump also fuel valve. One set of valves and other spares for water circulating pump and also bilge pump.

This spare gear has been supplied in accordance with the 1925/6 Rules for Diesel engines



The foregoing is a correct description,

B. Starostovich Manufacturer.

Dates of Survey while building
 During progress of work in shops - 1927: 15/3, 24/5, 6/7, 14/7, 22/9, 27/9, 11/10, 12/10, 14/10, 19/10, 9/11, 14/12, 21/12, 28/12. 1928: 4/1, 11/1, 26/1, 1/2, 8/2, 22/2, 23/2, 29/2, 7/3, 14/3, 21/3, 22/3, 28/3, 9/4, 11/4, 24/4, 15/5, 16/5, 22/5, 23/5, 24/5, 13/6, 14/6, 3/7, 12/7, 14/7, 29/8, 4/9, 5/9, 6/9, 11/9, 9/10, 15/10, 17/10, 27/10, 31/10, 15/11, 27/11, 28/11, 18/12. 1929: 2/1, 3/1, 9/1, 17/1, 23/1, 24/1, 5/2, 12/2, 20/2, 26/2, 5/3, 6/3, 20/3, 26/3, 27/3.
 During erection on board vessel - 1927: 20/3, 2/4, 3/4, 9/4, 10/4, 13/4, 22/4, 25/4, 1/7, 19/7.
 1928: 11/10, 15/10, 16/10. 1929: 12/1, 1929: 19/1, 12/2, 9/4, 16/4, 13/5, 28/5, 19/6, 16/7, 23/7, 6/8, 20/8, 19/9, 3/10, 21/10.
 Total No. of visits 97.

Dates of Examination of principal parts - Cylinders To 11/4/28 Covers To 14/11/28 Pistons 3/27-18/28 Rods 3/27-23/28 Connecting rods 18/1/28
 Crank shaft 12/1/27 PRAVE Flywheel shaft 6/9/28 Thrust shaft 6/9/28 Intermediate shafts 5/3/27-15/11/28 Tube shaft ✓
 Screw shaft 5/3/29 Propeller 9/4/29 Stern tube 11/16/10/27 Engine seatings 10/1/29 Engines holding down bolts 17/23/7/29
 Completion of fitting sea connections 11/10/27 Completion of pumping arrangements 2/10/29. Engines tried under working conditions 1-3/10/29
 Crank shaft, Material STEEL Identification Mark C.R.H. 12/1/27 Flywheel shaft, Material STEEL Identification Mark AS THRUST SHAFT.
 Thrust shaft, Material STEEL Identification Mark LLOYDS N° 0563 11/9/28 Intermediate shafts, Material STEEL Identification Marks SEE UNDER.
 Tube shaft, Material ✓ Identification Mark ✓ Screw shaft, Material STEEL Identification Mark N° 0636 11/9/28

Is the flash point of the oil to be used over 150° F. YES

Is this machinery duplicate of a previous case YES If so, state name of vessel M/S "ALEXIS RYKOFF"

General Remarks (State quality of workmanship, opinions as to class, &c.)

INTERMEDIATE SHAFTS :- LLOYDS N° 0568 11/9/28 LLOYDS N° 0564 11/9/28 LLOYDS N° 0511 11/9/28 LLOYDS N° 0566 11/9/28 LLOYDS N° 0575 15/11/28
 STARTING AIR RECEIVERS :- N° 45, 46, 48, 51, 52, 54, 57, MK 30/4/27 431, 432 J.L. 28/4/27, 170 VS. 25/4/27
 MAIN BLAST AIR BOTTLES (2) AUX. STARTING BOTTLES (2) N° 137 & 146 PK. 30/11/27 140 & 151 PK. 30/11/27
 N° 4 STAMPS ON THE ABOVE AIR RECEIVERS HAVE BEEN VERIFIED FROM COPY OF DUSSELDORF REPORTS DATED 3/5/27 & 2/12/27.

This machinery has been constructed under special survey in accordance with the Rules and approved plans. The materials and workmanship are sound and good, the machinery has been fitted on board the vessel in an efficient manner examined under working conditions and everything found satisfactory and is in my opinion eligible to be classed with record of L.M.C. 10-29 Propeller shaft has been fitted with two liners. The rule requirements for "Ice Navigation" have been carried out.

Certificate (if required) to be sent to Lloyd's Register of Shipping, London. (The Surveyors are requested not to write on or below the space for Committee's Minute.)

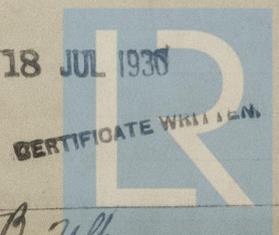
The amount of Entry Fee ... £	:	:	When applied for,
Special ... £	:	:	19.
Donkey Boiler Fee ... £	:	:	When received,
Travelling Expenses (if any) £	:	:	19.

A. M. Crisick
 Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute
 Assigned L.M.C. 10.29 (Oil Engines)
 Subject W.S. 71/26 71/26

FRI. 18 JUL 1930

TUE. 5 NOV '29



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